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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,606	06/06/2006	Allan Craig Marshall	0-010527USWZEN	2856
7590 Omnova Solutions Inc Chief Intellectual Property Counsel 175 Ghent Road Fairlawn, OH 44333-3300			EXAMINER HIGGINS, GERARD T	
			ART UNIT 1794	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,606

Applicant(s)

MARSHALL ET AL.

Examiner

GERARD T. HIGGINS

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-25, 27-30 and 32-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-25, 27-30, and 32-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed 07/25/2008 has been entered. Currently claims 22-25, 27-30, and 32-41 are pending, claims 1-21, 26, and 31 are cancelled, and claims 22, 35, 38, and 39 are amended.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 22-25, 27-30, and 32-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 11, the term "microscopic" is a relative term which renders the claim indefinite. The term "microscopic" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear what size range is encompassed by the word microscopic.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 22-25, 32, 40, and 41 rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Wallin (4,034,375), Conway et al. (5,077,101), and Conner (5,846,614).

With respect to claims 22-25, Nägele discloses camouflage fabrics designed to not only hide the intended structure from visual recognition, but also from infrared detection (col. 1, lines 1-32). Infrared detection includes affecting the near, mid, and far-infrared wavelengths and also affecting the absorption, transmission, and reflection of those wavelengths. The fabrics may be of a single starting color. The Examiner deems that these fabrics may inherently be white to begin with before the application of dyes. Given how broadly inks are claimed in the present set of claims, it is clear that the dyes of Nägele would fall under inks as presently claimed. Nägele colors the fabrics by using a variety of dyes to dye the entire fabric to match the environment in which the fabric is designed to be used, paying close attention to the visual and infrared spectra of said fabrics (col. 1, line 43 to col. 2, line 51); however, Nägele fails to disclose a first sheet comprised of a polymeric film, said polymeric film incorporating pigments that alter its near-IR reflection characteristics, the ink being printed in a digitally defined pattern as a series of microscopic dots, and the second surface being coated with an adhesive.

Wallin discloses polymeric films **20** and **21** that may be used for camouflage purposes (col. 3, lines 25-49). The films may be incorporated with pigments that alter the near-IR reflection characteristics of the film and may have a pigment-containing coating or paint placed on top of the polymeric film (col. 3, lines 45-49 and col. 1, lines 33-41).

Conner discloses inkjet printing of inks for camouflage patterns (col. 8, line 65 to col. 9, line 24); furthermore, the inkjet printing of inks will intrinsically lead to a digitally defined pattern of microscopic dots as this is what inkjet printing does.

Conway et al. disclose using adhesive on the underside of camouflage materials to bond the camouflage to the intended substrate (col. 2, lines 42-43).

Since Nägele, Wallin, Conner, and Conway et al. are all drawn to camouflage articles; it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Nägele with those of Wallin, Conner, and Conway et al. The motivation to use the polymeric films of Wallin as a camouflage is that the resulting camouflage will be more resistant to weather and damage. The motivation to use the inkjet printing of Conner is to form more precise images, as well as the possibility of using computers to edit the camouflage images and customize them. The motivation to use an adhesive as taught by Conway et al. is to provide a means for attaching the camouflage to the intended substrate. One of ordinary skill in the art would understand that the adhesive can be chosen in order to highly reduce the chance of delamination. The motivation for inkjet printing the inks of Nägele is to provide exact

Art Unit: 1794

and precise patterns that will mimic the surrounding environment; further, it will allow for faster throughput in the manufacture of said camouflage.

With regard to claim 32, at col. 1, lines 33-42 and col. 3, lines 36-49 teach that matching the IR spectrum, particularly the near-IR, of chlorophyll is extremely important for matching the local environment for which the camouflage is to be used.

With regard to claims 40, Nägele discloses having various color tones such as olive, earth tone, khaki, etc. The plurality of inks would provide differing visible and infrared characteristics.

With regard to claim 41, Nägele the translation discloses the term "university-colored" this is a mistranslation as it should be "uniformly colored," which means that the fabric may be a single color, and hence completely covered by said inks.

6. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Wallin (4,034,375), Conway et al. (5,077,101), and Conner (5,846,614), as applied to claim 22, and further in view of Cox et al. (6,127,007).

Nägele in view of Wallin, Conner, and Conway et al. teach all of the limitations of applicants' claim 22, including teaching that there might be overlays on the base fabric for matching the base fabric to the environment in which it was intended to be used; however, it does not clearly state that the overlays are removably adhered.

Cox et al. teach at col. 3, lines 28-49 that removable strips are adhered to the camouflage covering in order to match the visible and infrared characteristics of the camouflage covering to the surrounding in which it is to be used.

Since Nägele, Wallin, Conner, Conway et al., and Cox et al. are drawn to camouflage articles for mimicking the visible and infrared characteristics of the surrounding environment, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the removably adhering camouflage strips of Cox et al. on the camouflage fabric of Nägele in order to adjust the camouflage fabric to the environment in which it was to be used. The results of which would have been predictable to one having ordinary skill in the art of camouflage; further, one of ordinary skill would have recognized that each of the elements would have performed the same in combination as they had separately. The motivation for combining these references is provide a camouflage that is adaptable to the environment to which it is to be used.

7. Claims 27, 29, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Wallin (4,034,375), Conner (5,846,614), and Conway et al. (5,077,101), as applied to claim 22, and further in view of Heiniger (WO 98/36234), of which US 6,605,340 is a national stage entry of the same and will be used herein as a translation.

Nägele in view of Wallin, Conner, and Conway et al. disclose all the limitations of applicants' claim 22 as seen in section 9 above; however, it fails to disclose a radar absorbing material in said first sheet or wherein said covering is embossed.

Heiniger teaches at col. 3, line 66 to col. 4, line 16 that it is important for their camouflage covering to be active as multi-spectral camouflage. They want not only IR

Art Unit: 1794

activity but also radar activity for the camouflage material. They achieve this by either the layer thickness of the radar absorbing layer or changing the material that comprises the radar absorbing layer; furthermore they teach that the camouflage area may be shaped to have three dimensions (embossed).

Since Nägele, Wallin, Conner, Conway et al., and Heiniger are drawn to camouflaged materials; it would have been obvious to one having ordinary skill in the art to combine the radar absorption techniques of Heiniger into the camouflaged fabrics of Nägele. The results of which would have been obvious to one having ordinary skill in the art of camouflage techniques; further, each of the elements would perform the same in combination as they had separately. The motivation is to provide further camouflaging protection.

8. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Wallin (4,034,375), Conner (5,846,614), and Conway et al. (5,077,101), as applied to claim 22, and further in view of Sternson Laboratories (GB 565,238).

Nägele in view of Wallin, Conner, and Conway et al. disclose all the limitations of applicants' claim 22 as seen in section 5 above; however, it fails to disclose a highly surface reflective component comprising a surface reflectance of at least 78%.

Sternson Laboratories discloses a composition to be applied to building structures and the like for the purpose of camouflaging not only in the visible, but also in

Art Unit: 1794

the infrared portion of the electromagnetic spectra. They accomplish this by providing an inner layer of infrared reflective materials (page 1, lines 52-86).

Since Nägele, Wallin, Conner, Conway et al., and Sternson Laboratories are drawn to camouflaging of buildings and other objects in both the visible and infrared spectra, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the reflective materials of Sternson into the camouflaging fabric of Nägele. The results of which would have been predictable to one having ordinary skill in the art of camouflaging materials; further, the elements would perform the same in combination as they had separately.

With respect to the value of reflectance of 78%, it would have been obvious to one having ordinary skill in the art to vary the reflectance of the covering to whatever value was appropriate for applicants' intended use in order to guarantee that the object to be camouflaged would not be detected.

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Wallin (4,034,375), Conner (5,846,614), and Conway et al. (5,077,101), as applied to claim 22, further in view of Heiniger (WO 98/36234) as applied to claim 27 above, and further in view of Berg (4,479,994).

Nägele in view of Wallin, Conner, and Conway et al. and further in view of Heiniger render obvious applicants' claim 27 as seen in section 7 above; however, it fails to disclose a radar absorbing material of carbon.

Berg discloses using carbon as a radar absorbing material for camouflage (col. 3, lines 27-29).

Since Nägele, Wallin, Conner, Conway et al., Heiniger, and Berg are all drawn to camouflaged coverings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mere substitution of carbon as seen in Berg as the radar absorbing materials in the device of Nägele in view of Heiniger. The results of which would have been predictable to one having ordinary skill in the art of radar camouflaging. The motivation would be to provide even more camouflaging protection.

10. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Wallin (4,034,375), Conner (5,846,614), and Conway et al. (5,077,101), as applied to claim 22, and further in view of McKinney et al. (6,373,058).

Nägele in view of Wallin, Conner, and Conway et al. disclose all the limitations of applicants' claim 22 as seen in section 5 above; however, it fails to disclose using phase change materials to aid in camouflaging the object to be covered.

McKinney et al. disclose using phase change materials to camouflage objects (Abstract).

Since Nägele, Wallin, Conner, Conway et al., and McKinney et al. are drawn to camouflaging of objects in the infrared region, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the phase change materials of McKinney et al. into the camouflage covering of Nägele in order to further

reduce the chance that external sources will detect the infrared radiation emitted from the object to be camouflaged. The results of this combination would have been predictable to one having ordinary skill; further, one of ordinary skill would have recognized that each of the elements would perform the same in combination as they had separately.

11. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Wallin (4,034,375), Conner (5,846,614), and Conway et al. (5,077,101), as applied to claim 22, and further in view of Hellwig (4,645,704).

Nägele in view of Wallin, Conner, and Conway et al. disclose all the limitations of applicants' claim 22 as seen in section 5 above; however, it fails to disclose using a layer of lacquer.

Hellwig discloses textile webs that are useful for camouflaging objects and especially reflecting infrared radiation (col. 4, line 67 to col. 5, line 11). Hellwig discloses that a layer of lacquer may be applied to the web to protect the article from abrasion, damage, and wear (col.3, lines 17-22).

Since Nägele, Wallin, Conner, Conway et al., and Hellwig are drawn to camouflage coverings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the lacquer coating of Hellwig and the camouflage covering of Nägele. The results of which would have been predictable (increased protection from abrasion, damage, and wear) to one having ordinary skill in the art of camouflage coverings; further one of ordinary skill would have recognized that

Art Unit: 1794

each of the elements would have performed the same in combination as they had separately. Clearly, the motivation is to further protect the camouflage article from wear and tear.

12. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Wallin (4,034,375), Conner (5,846,614), and Conway et al. (5,077,101), as applied to claim 22, and further in view of Kosson et al. (5,117,737).

Nägele in view of Wallin, Conner, and Conway et al. disclose all the limitations of applicants' claim 22 as seen in section 5 above; however, it fails to disclose using a layer of polyvinyl fluoride.

Kosson et al. disclose using plastic materials to reduce thermal (IR) emissions as camouflage coverings. They disclose the polyvinylfluoride material Tedlar® (col. 4, lines 30-60).

Since Nägele, Wallin, Conner, Conway et al., and Kosson et al. are drawn to camouflage coverings designed to reduce detection by infrared emissions, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a layer of Tedlar® as seen in Kosson et al. as a layer in the camouflage covering of Nägele. The results of which would have been predictable to one having ordinary skill in the art of camouflage coverings; further, one of ordinary skill would have recognized that each of the elements would have performed the same in combination as they has separately. The motivation for using this material is to further hide the infrared signature of vehicles.

Response to Arguments

13. Applicant's arguments, see Remarks, filed 07/25/2008, with respect to the objections to the drawings, the objections to the claims and the rejection of claims 31, 35, 36, and 39 under 35 U.S.C. 112, second paragraph have been fully considered and are persuasive. The relevant objections/rejections have been withdrawn.

14. Applicant's arguments with respect to claims 22-25, 27-30, and 32-41 have been considered but are moot in view of the new ground(s) of rejection.

Applicants have amended independent claim 22 in order to introduce the new limitations that the first sheet is a polymeric film that includes at least one pigment that alters its near-IR reflection characteristics, the first surface of the material is covered with microscopic dots of a plurality of inks in a digitally defined pattern, and that the second surface is coated with an adhesive.

The Examiner did not have to deal with any of these limitations in the first office action, and therefore the Examiner has set forth new rejections above, which address each of the newly added limitations.

Wallin teaches a polymeric film useful as a camouflage material, which has pigments included therein to modify the infrared characteristics of the film and may include pigments or paints on the surface to modify the color of the article to match the surroundings.

Conway et al. teaches using adhesives to bond camouflage materials to the desired substrate of the user. The adhesive is included on the underside of the camouflage material.

Conner teaches inkjet printing of inks for camouflaging purposes.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 9:30am-7pm est. (1st Friday off).

Art Unit: 1794

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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